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ABSTRACT

This paper raises questions about many bibliographic standards developed over the past 20 years, and challenges librarians to consider how standards might evolve. A brief overview is given of the aims of Universal Bibliographic Control (UBC) and to some assumptions common to much standardization work in recent years inspired by the concept of UBC. Current economic and technological developments influencing library standards are discussed together with their relevance to both industrialized and developing countries. Technical developments include retrospective conversion, online public access catalogs (OPACs) and compact disks (CD-ROMs). It is argued that the technological gap between industrialized and underdeveloped countries is growing, and possible ways of overcoming this are considered, including the strengthening of national information policies, professional training, and automation on an appropriate scale. Suggestions are made as to how the various producers of bibliographic standards should react. Possibilities for specific projects in the area of bibliographic control are listed, and suggestions are made for closer cooperation among national and regional associations of information professionals. It is noted that new developments in bibliographic control can also help the less developed countries to gain access, through their own libraries, to elements of their own cultural heritage contained in libraries abroad. The International Federation of Library Associations and Institutions (IFLA) is in a position to help maintain and develop technical standards, and to mediate between professional information workers from different cultures. (Author/MAB)

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REFLECTIONS ON INTERNATIONAL BIBLIOGRAPHIC STANDARDS

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Abstract

There are now question marks over many bibliographic standards developed over the past 20 years, and librarians should consider how standards might evolve. A brief overview is given of the aims of Universal Bibliographic Control (UBC), and then of some assumptions common to much standardisation work of recent years inspired by the concept of UBC. Current economic and technological developments influencing library standards are discussed, and their relevance to both industrialised and developing countries. Technical developments include retrospective conversion, OPACs and CD-ROMs.

It is considered that the technological gap between North and South is growing, and possible ways to overcome this are discussed. These include the strengthening of national information policies, professional training and automation on an appropriate scale.

Suggestions are made as to how the various producers of bibliographic standards should react. Possibilities for specific projects in the area of bibliographic control are listed, and suggestions made for closer cooperation among national and regional associations of information professionals. New developments in bibliographic control can also help the less developed countries to gain access, through their own libraries, to elements of their own cultural heritage contained in libraries abroad. IFLA is in a position to help maintain and develop technical standards, and to mediate between professional information workers from different cultures.

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REFLECTIONS ON INTERNATIONAL BIBLIOGRAPHIC STANDARDS

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1. Introduction

The title of this paper can be interpreted in two ways - I hope to give you not only my personal reflections, which are necessarily subjective, but also to indicate some of the ways in which I consider that the technological and economic environment reflects on the standards we have developed and affects the ways in which these are put to practical use.

The concept of a "standard" in the field of information work (both in librarianship and in information science), is somewhat ambiguous. It is clear that, for one group of professional information workers, the term "standard" covers codes of cataloguing rules, classification schemes and various other documents containing recommendations for good library practice, all of which are subject to varying interpretation; whereas for another group of professionals, standards are extremely precise technical specifications for communication between software and machines in an automated information processing environment. (Some people, in fact, call these categories "soft" and "hard" standards).

In particular, from the point of view of promoting international bibliographic control, "bibliographic standards" are those documents disseminated across national (and sometimes even cultural) borders, which define the working practices agreed on after international discussion aimed at systematising and improving both the creation of bibliographic information by national and other agencies and the *distribution* of this information.

At its simplest, bibliographic control can be defined as a system for recording and describing library materials in a catalogue or database which facilitates access to these materials in a library or documentation centre. (Bibliographic control should be distinguished

from the much broader concept of "universal bibliographic control" (UBC) which I will discuss later.) Bibliographic control implies the use of agreed standards and procedures. It is not a philosophy nor an end in itself. When applied at national or international level, it is a practical idea with profound economic and social implications, in that it allows us to avoid duplication of human effort and the waste of scarce resources. In the long term, it contributes to cultural and economic development by making scientific information rapidly and efficiently available.

There are now many questions being asked about bibliographic standards developed in the industrialised countries over the last 20 years. Questions arise not only from professional experience in the actual operation of these standards (experience which normally leads to their amendment and refinement) but also from the changing environment in which libraries world-wide are having to operate. I am referring to changes in levels of literacy, the extension of educational opportunities, the increasing power of the publishing and communications industry, and the increasing sophistication of the software and hardware available to libraries and information centres. All of these are of course factors in the drive for greater cost-effectiveness and higher productivity, which is leading some libraries to question the standards which have been so painstakingly developed.

In this paper, I will be concerned to discuss these matters largely from the point of view of IFLA (the International Federation of Library Associations and Institutions). I intend first of all to pick out some of the themes and assumptions underlying recent efforts to develop standards for libraries and the concept of Universal Bibliographic Control (UBC), promoted by IFLA. I will consider what questions we should be asking about the aims of standardisation work and its role in the international flow of information. I will discuss some of the current trends changing the way in which standards are applied in libraries and documentation centres and also changing the way in which these standards are perceived (by staff and - more importantly? - by users). I will suggest how producers of bibliographic standards might react. Finally, I will consider how professional information workers in industrialised and developing countries might better collaborate, and suggest how professional associations (including IFLA) could play a greater role in bringing them together.

2. The current scene.

2.1 The development of current library standards.

Since the middle years of this century, the output of publications in the developed countries has reached proportions so enormous as to put great strain on the

capacity of national bibliographic agencies (and indeed all academic and public libraries) to acquire, catalogue and make them available to their customers. (Indeed, this is now leading some national libraries seriously to question the *need* for them to retain all the national imprint.) Similarly, the tremendous growth in scientific journal publishing has inflated the databases of the major abstracting and indexing services. Over the same period, from the late 1950s, computers came more and more into use in business, industry, public administration and higher education. It was natural that the 1960s and 1970s should have witnessed the growing application of this computing power to the various stages of technical processing in libraries, and to the provision and exchange of machine-readable records by libraries and by secondary services.

At the same time, there was a movement within the library profession towards rationalisation of the cataloguing standards underpinning bibliographic work. A major manifestation of this was the International Conference on Cataloguing Principles (ICCP), held in Paris in 1961. This conference agreed on a statement of principles for the choice and form of headings in library catalogues, which have subsequently had a great influence on the development of the major Western cataloguing codes. These principles placed great emphasis on the concept of the main entry for each document (with appropriate added entries and references), the choice of personal or corporate headings for entries, and the use of uniform headings for consistency.

The second landmark in the 1960s was the International Meeting of Cataloguing Experts (IMCE) in Copenhagen in 1969. The IMCE resolved that:

> "Efforts should be directed towards creating a system for the international exchange of information by which the standard bibliographical description of each publication would be established and distributed by a national agency in the country of origin of the publication. The means of distribution in such a system would be through the medium of cards or machine-readable records. The effectiveness of the system will be dependent upon the maximum standardization of the form and content of the bibliographical description."[1]

In the early 1970s, IFLA's Committee on Cataloguing established (in the British Library in London) an office which later became the International Programme for Universal Bibliographic Control.

2.2 The aims of IFLA in promoting UBC.

When the concept of Universal Bibliographic Control (UBC) was formulated in the early 1970s, its aims were defined as being:

> "...the promotion of a *world-wide system for the control and exchange* of bibliographic information. The purpose of the system is to make universally and promptly available, in a form which is internationally acceptable, basic bibliographic data on all publications issued in all countries.
> The concept of UBC presupposes the creation of a network made up of component national parts, each of which covers a wide range of publishing and library activities, all *integrated at the international level to form the total system.*"[2]

Several years later, after the IFLA International Programme for UBC had had some success in promoting this concept, the aims of UBC were re-stated as follows:

> "The current programme of UBC differs from the *earlier ideas of centralised world control* in that the "Universal" in the title has been seen as a *progressive development* through the strengthening of national bibliographic control and the development and use of international standards and other normative tools. *The Programme is essentially practical*, with one aim - to prevent duplication of efforts in cataloguing and bibliographic recording, and is based on two simple convictions:
> - that each country is best qualified to identify and record the publications of its own authors; and
> - that all countries are willing, in recording their national publications, to follow international bibliographic standards."[3]

The italics in the above quotations are mine: they highlight phrases which reflect a significant change of emphasis. In the climate of opinion of the time, it had been considered vital to set up structures, systems and networks to take advantage of the development of automated information processing, and to advance national and international policy objectives. Many of the systems set up in the 1960s and 1970s are now well-established - not to say mature. Examples include the spread of standard numbering, the ISDS, or systems such as AGRIS and INIS; while shared cataloguing systems have frequently grown into major bibliographic utilities. Similarly, many of the bibliographic control standards promoted by IFLA, Unesco and major national libraries have now become an established part of the mental furniture of staff in most types of libraries.

More recently, the aims of the UBCIM Programme have commonly been defined succinctly as: "the exchange and use of compatible bibliographic records amongst libraries in general and national bibliographic agencies in particular;" and "to create, maintain and promote the use of standards for the exchange of bibliographic data in machine-readable form."

Over the years, the aims of the Programme have become steadily less globally ambitious, one could almost

say more prosaic; but I believe that the Programme has become more realistic. There has been no attempt to *impose* standardisation, but rather to coordinate the work of many groups within IFLA for the development of texts reflecting international agreement on best practices in certain areas of librarianship. These texts have become *de facto* standards by virtue of their self-evident value in the attainment of the economic and cultural objectives of UBC.

Since 1987, when the UBC and International MARC Programmes were merged to form the present UBCIM Programme, IFLA's work in standardisation has been even more tightly focussed. It is now in a transitional phase while discussions are under way to determine new priorities and new areas of work.

2.3 IFLA's activities in pursuit of bibliographic standardisation.

The IFLA International Programme for UBC concentrated on four major areas of work:
- the development of the International Standard Bibliographic Description;
- the improvement of national bibliographies;
- the development of international standards for the exchange of bibliographic records in machine-readable form;
- the standardisation of forms of headings for bibliographic records.

In these four areas IFLA produced significant achievements which led to the effective application of standardisation. This work has been pursued in the following ways:

2.3.1 International Standard Bibliographic Descriptions.

These derived from the above resolution of the IMCE. A.H. Chaplin stated that the ISBDs were:

> "designed primarily as an instrument for international communication of bibliographical information. By specifying the elements which should comprise a bibliographical description and by prescribing the order in which they should be presented and the punctuation by which they should be demarcated, it aims at three objectives: to make records from different sources interchangeable; to facilitate their interpretation across language barriers; and to facilitate the conversion of such records to machine-readable form."[4]

Following the original ISBD for monographs came others for serials, printed music, cartographic materials, antiquarian materials (rare books) and indeed one for non-book materials (audio-visual and other material). These documents were not and are not

intended to form a code of cataloguing rules - indeed, this would be impossible, as the ISBDs cover only description, not the creation of headings which give access to collections - but they are intended to ensure that bibliographic data is presented in the same way whatever the language and script in which it may be written. Since the early 1980s, a review of the ISBDs has been underway, and new editions of each specific text are appearing, incorporating additions and amendments derived from practical experience. The ISBD was incorporated into AACR and other cataloguing codes, and underlies the descriptive data in records listed in the printed national bibliographies of most countries and in the online databases of the larger national bibliographic agencies.

2.3.2 National bibliographies.

A major step toward the improvement of national bibliographies was the organisation by Unesco of the 1977 International Congress on National Bibliographies, in Paris. On the basis of the recommendations of that congress, the IFLA International Office for UBC later prepared for Unesco a document entitled *Guidelines for the national bibliographic agency and the national bibliography*.[5] This document contained recommendations on how the records of the national bibliography should be prepared, what should be included in it, and what should be the primary and secondary functions of the national bibliographic agency in preparing it.

This document began by stating that the concept of UBC is based on two convictions: that each country is best qualified to identify and record the publications of its national authors, and that all countries should accept international bibliographic standards in making bibliographic records. Effective national bibliographic control is the first requirement, provided by a national bibliographic agency with the backing of a legal deposit law, an adequate administrative infrastructure, and responsibility for publishing authoritative records in a national bibliography. (In some countries today the national bibliographic "agency" may in fact be a de facto network of contracting libraries, but this is not inconsistent with the principles enunciated above.) Mention was also made of the need for retrospective national bibliographies to give an overview of a country's cultural development, and to provide other information for government planning.

The national bibliographic agency also has the role, according to these Unesco *Guidelines*, of providing access to the national imprint. The definition of "national imprint" is in fact problematic now, with the spread of multi-national publishing in the industrialised countries and the common practice in developing

countries of including in their national bibliographies records of books by their citizens published abroad (perhaps in the form of theses presented at foreign universities) and of books about these countries published abroad.

The recommendation was also made that the National Bibliographic Agency should ensure that standard numbers (i.e. ISBNs and ISSNs) were added to national records, either by attributing these numbers itself by agreement with publishers and the ISDS, or by encouraging the setting up of a separate national ISBN agency and a national serials data centre. The NBA should also persuade publishers of the value of Cataloguing-in-publication both in marketing terms and in terms of national bibliographic control. The NBA could also become a national component of the various specialised international scientific information systems. The national bibliographic agency should also maintain national authority files for names and subjects. Recommendations were also made on the type of data to be included in national records, the standardised presentation of these records, and the role of the NBA in distributing these records.

Various studies have shown that much progress has been made over the last decade towards achieving these aims.[6]

2.3.3 Standards for the exchange of machine-readable records.

In 1975 the Conference of Directors of National Libraries (CDNL) set up a committee to carry out an international MARC network study. This study (the Wells Report[7]) eventually defined three essential prerequisites for such a network as: effective national bibliographic systems, international compatibility (i.e. use of bibliographic and other standards), and adequate telecommunications. The work of the International MARC Network Committee (IMNC) of the CDNL led to the publication of two particularly significant documents: the *International guide to MARC databases and services*[8] (which not only listed the available services but specified the bibliographic standards they apply), and *International transfers of national MARC records*[9] (which provides guidelines for drawing up service agreements between national bibliographic agencies wishing to exchange their national records, thus extending the scope of standardisation). Nevertheless, a recent review of progress since the Wells Report concludes that "while much has been accomplished and some areas have been overtaken by events or technology, many aspects of the international MARC network have never reached full fruition."[10]

The IFLA Working Group on Content Designators was established in 1972, and by the end of 1976

agreement had been reached on UNIMARC, the international descriptive format designed to facilitate the exchange of machine-readable records between national bibliographic agencies. Two editions of the UNIMARC format were published, together with an interpretative handbook based on experience with applying the format. Further improvement and updating culminated in the publication in 1987 of the definitive version of the format, the *UNIMARC Manual*[11]. Work on the development of the UNIMARC Format for Authorities is now nearly completed.

2.3.4 Standardisation of forms of headings.

Many lists of uniform headings (for names of persons, corporate bodies, states) and general works on authority control were published in the early days of the IFLA International Programme for UBC. These have all been described and commented on by numerous writers. I will simply recall a few here: Eva Verona's important work on corporate headings[12] which later led to the UBC publication *Form and structure of corporate headings*[13]; and the study on *Names of persons: national usages for entry in catalogues* and its later *Supplement*.[14] Two other significant publications were lists of uniform headings for legislative and ministerial bodies in European countries[15] and African countries.[16] In recent years, however, the production of such authority lists, and the updating of the early ones, has lapsed for various reasons. It was originally planned to produce a wider range of publications to balance the heavily Western orientation of these publications, but few results were seen.

2.4 Progress with UBC.

Thus, during the mid-1970s, IFLA promoted the concept of UBC, which was adopted by Unesco as a major policy objective in 1974. UBC was defined as "a world-wide system for the control and exchange of bibliographic information" - it rested on the assumption that each country would implement national bibliographic control, i.e. by making the deposit of publications a legal requirement and setting up a national bibliographic agency to create, publish and distribute records for its national publications. At the international level, UBC would be achieved by the exchange of such national records between national bibliographic agencies. It was also stressed that the *raison d'etre* of UBC was to make library collections accessible.

One aim of UBC was to improve the economics of library work by urging the acceptance of each NBA as the sole authoritative source of records of its own national imprint - i.e. full records should only need to be created once, and could then be re-used as necessary by other libraries around the world.

The fundamental aim of UBC was to bring cultural benefits to the international community. The whole thrust of IFLA's standardisation activities, now carried on by the UBCIM Programme, has been outward. National libraries have been encouraged not only to upgrade their own work but to engage in communication with others. It was always recognised that greater access to bibliographic records was of little benefit (other than to bibliographers) unless free access to the original documents was also provided. (This principle was re-affirmed when IFLA set up its International Programme for UAP - Universal Availability of Publications.)

2.5 Underlying assumptions.

It is clear that UBC activities aimed at the development of recommendations and standards for the whole series of activities in what we might call the "bibliographic chain." There were a certain number of basic assumptions underlying this work, not all of them perhaps consciously expressed. These were:

(a) that the data elements in a standardised bibliographic description should largely be those traditionally making up records included in the catalogues of Western libraries, themselves based on the printed book, the predominant medium;

(b) that unit records should be constructed for each item (i.e. with all data elements given in one record with a main entry heading and appropriate added entries and references); although the construction of unit records might vary as appropriate to different media;

(c) that the design of machine-readable catalogue formats should also accommodate the traditional bibliographic description and the technique of the unit record - (this being also due to the fact that magnetic tape, the predominant medium of exchange of bibliographic records, offered only serial access);

(d) that the bulk exchange of machine-readable records would continue to be largely a matter for research libraries and publicly-funded national libraries (or other national bibliographic agencies) able to invest heavily in and deploy the computer systems necessary for the exchange of bibliographic records on tape.

In addition to these assumptions about the development of strictly professional matters, there were other assumptions arising from the economic conditions of the 1960s and early 1970s in the more highly industrialised countries. Librarians had reason to assume that financial support for library work, and hence the implementation of agreed standards, would continue to be available in sufficient measure. Also, as I have already mentioned, the concept of UBC was predicated on the optimistic assumption that there would be an indirect link between advances in bibliographic control in all countries and greater economic and social progress.

2.6 Present trends.

It is, however, generally agreed that certain trends have begun, in recent years, to cause us to modify these earlier assumptions. Some of these trends or perceptions are:

2.6.1. Limits to the increasing complexity of standards for bibliographic description.

The current stage of development of the ISBDs is seen as being the last, simply because they have become too complex for all but the largest libraries to need to apply them fully. Moreover, the specific punctuation prescribed by the ISBD system, originally the most notable new feature of the system, is now seen by some record creation and distribution agencies as being unnecessarily complex, i.e. too expensive in terms of cataloguers' time. A more fundamental criticism is that, in attempting to legislate for every conceivable possibility, they have come more and more to resemble *de facto* codes of cataloguing rules. It is clear also, from the reactions of both systems designers and library users, that the ISBD structure in its present form is not fully suitable for use in the simplified screen displays being developed for public online catalogues. (A recent study undertaken in the British Library has revealed users' conflicting reactions to traditional record display formats.[17])

When libraries are newly implementing automated systems, they often find they are forced to examine critically the need to provide for the full range of options given in traditional cataloguing codes and descriptive standards for the production of comprehensive and authoritative records with full holdings data. Those libraries committed to maintaining high-quality online catalogues must somehow budget for the increasing costs of employing and training highly skilled staff (both programmers and cataloguers). It is indisputable that automated systems are invested in to increase productivity in technical processing and to increase the retrieval speed and the general availability of records to library users; therefore a slavish adherence to complex descriptive standards may in fact be counter-productive.

2.6.2. Online working within libraries and online links between them.

In the industrialised countries, thanks to the falling price and increasing availability of computing hardware and the availability of sophisticated telecommunications links, we have in recent years witnessed the growth of cooperative input to shared databases, or even the interfacing of automated library catalogues which differ significantly in many ways (e.g.

in the classification schemes they apply, the level of quality and detail in their catalogue records, the quality of their inverted files, the search capabilities they offer, and, crucially, in the degree of flexibility and help they offer to the inexperienced user).

When records supposedly prepared according to the same standards are input to a large shared database, differences in the policies applied in the contributing libraries can mean that records are unnecessarily rejected, or duplicate existing records, if they are not subjected to a time-consuming editing process. If editing of records is not adequate, on the other hand, then the amount of "noise" in later information retrieval is very wasteful and frustrating from the point of view of library users. For this reason, many libraries and cooperatives are having to strike a realistic balance in the application of standards, and implement systems for editorial control as large numbers of retrospectively converted records are beginning to be fed into library databases. Partly for this reason, research is now being done (at the University of Bradford, U.K., and elsewhere) into ways of automating quality control.

2.6.3. Open Systems Interconnection (OSI).

The increasing pace of development of OSI protocols will lead to interconnection at all levels from hardware upwards to formats for the transmission of data. The achievement of OSI will lead to the transmission of huge volumes of data across national frontiers. Serious attempts are now being made, in North America and Western Europe (particularly in the context of the European Commission's *Action Plan for Libraries*), to prepare for all the effects which this will have. Quite apart from the questions of copyright and confidentiality which this is already raising, particularly in terms of government and commercial databases, the library and information profession is now trying to foresee the effects which this phenomenon could have on our existing bibliographic standards. Will they stand up to such a powerful factor for change?

(IFLA is currently involved in this area to the extent that research is being conducted by its UDT (Universal Dataflow and Telecommunications) Programme, jointly with the British Library Document Supply Centre and with the support of the Commission of the European Communities, into the design of a communications package for the transmission of interlibrary loan requests. This does not yet directly affect bibliographic standards.)

2.6.4 Retrospective conversion.

Retrospective cataloguing (of previously uncatalogued or briefly catalogued material) should be distinguished from retrospective conversion of existing manual catalogue records into machine-readable form.

Retrospective cataloguing is very onerous, involving much staff time used in matching data against records held in other databases, but in the context of well-defined projects (such as ESTC, the international Eighteenth Century Short-Title Catalogue) is has proved its value. Retrospective conversion can be a relatively simpler operation when the quality of the existing records allows OCR techniques to be used; but even where the quality of the original data is too poor to give good results using OCR, the re-keying of data (with post-editing) has proved effective. A successful example of the latter technique is the current British Library Catalogue Conversion Project.

The national and research libraries of most countries still have large manual (printed or card) catalogues of their older collections of books, manuscripts and other materials, in various languages. In many cases, these collections not only include material concerning the nation within its modern territorial boundaries, but also include written records and cultural artefacts relevant to countries of the surrounding region and in some cases to former colonial possessions. In addition to their value as a cultural heritage, these collections constitute a historical record of the development of modern states. They are still a relatively untapped research source of enormous potential which retrospective conversion will allow the industrialised countries to exploit in the context of national policies for social and economic development.

Two other factors increasingly justify the large investment which some countries are now making in the use of modern technology for retrospective conversion or cataloguing. These factors are the need to have better control of older collections for the management of conservation (e.g. identifying the documents most at risk, and adding to records up-to-date information on conservation requirements and treatments applied), and the political and professional requirement that expensive collections be made fully available for public use. The standards used to create and edit the bibliographic records of these collections must therefore accommodate the addition of further data elements to meet new requirements for collection management; while at the same time they must fully meet users' requirements by providing for the clear and self-explanatory display of information.

2.6.5. Competition in record supply.

Economic pressures on national bibliographic agencies in the industrialised countries (the higher operating costs in the present environment, combined with the increasing volume of national and international publishers' output), have led to many libraries expressing dissatisfaction with current national bibliographic services. Commercial firms have for several

years been exploiting this situation by providing bibliographic records rapidly and efficiently - both nationally and internationally. They have in some cases used bibliographic standards (for cataloguing rules and designation of data elements) analogous to those applied in libraries, but there has nevertheless been a proliferation of different MARC-type data formats. One might question the need for large, centralised and publicly-funded national bibliographic agencies to continue in their present form, but such agencies will certainly continue to exist in some form. It seems certain that, whether they like it or not, they must learn to collaborate to some extent with their commercial rivals, at least in maintaining standards for bibliographic control, and possibly even in the provision of services.

Opinions are divided on whether or not this competition is beneficial: it certainly seems that it will improve the rapid supply of accurate current bibliographic records in the industrialised countries. On the other hand it can be argued that such commercial competition is unfair: commercial databases are often made available free or at much reduced cost, with no guarantee that the service will not be withdrawn. The developing countries, where national bibliographic control (in the UBC sense) is presently inadequate, should pay close attention to this trend. A recent survey of the value of Third World national bibliographies as library selection tools demonstrated that 40% contained inadequate bibliographic data, and that their speed of publication and extent of coverage were also inadequate in many cases.[15] Commercial competition to supply records to make up for such deficiencies could in fact make it even more difficult for poorer countries to improve their own indigenous systems for bibliographic control.

2.6.6. New requirements for authority control and new possibilities for subject access.

Authority control can be defined as the working of those systems which are designed to facilitate consistency in the presentation of access points.

Names:

For a long time in libraries throughout the world, authority control was operated by means of manual lists and indexes, and often by reference to national bibliographies and other printed sources. National authority control in many countries began to be strengthened decades ago by the growth of shared cataloguing and catalogue card distribution services. More recently, with the application of computing power to shared cataloguing based in national libraries and regional library cooperatives, name authority control became essential and at the same time more economical. The best examples are the National Coordinated

Cataloguing Program (NCCP) in the United States, and the authority control possibilities designed into the software of such networks as WLN. On a smaller scale, numerous integrated software packages for library housekeeping increasingly offer authority control as a standard feature.

The activities of IFLA in this area are generally well-known, and I have already mentioned the publications of the UBC Programme. The International MARC Programme issued two editions of its *International guide to MARC databases and services*, giving details of the subject and name authority control applied by the national MARC record services which it listed. However, this guide included data gathered in the early 1980s, and as it is out of date both from the administrative and technical points of view, a new edition is being planned by the UBCIM Programme.

Subjects:

Traditionally, controlled subject access has long been provided by catalogues, whether on cards, printed or on some computer-based medium such as COM fiche, arranged either according to one of the great internationally accepted classification schemes or by agreed systems of subject headings, such as LCSH or the specialised thesauri of particular disciplines, or indeed by headings generated by some other indexing system (such as Precis).

Even with the advent of MARC-type formats and their use in major bibliographic databases, it was natural that automated retrieval of controlled subject information in such databases should continue initially to be largely dependent on specifying fields containing subject data structured and expressed according to traditional schemes; although of course provision was made for uncontrolled subject data (in the form of "keywords") to be retrieved from other fields (for names, titles, publishers, references). Such retrieval was made possible by the prior input of data whose content was designated and articulated according to the structure of a specific record format (usually MARC). However, throughout the 1980s, tremendous improvements in technology (e.g. in terms of data compression, new storage technology, higher operating speeds and more sophisticated indexing software) have combined with radically new approaches to making data publicly available - in particular, by means of public online catalogues and the distribution of records, indeed whole databases, on compact discs - to cause us to reconsider the whole question of subject access. Subject data is normally the most important intrinsic part of any bibliographic record, from the user's point of view. The question now is: should subject authority control continue to be as structured as in the past, or should we take advantage of technology to permit freer searching, and if so, to what extent are present standards still relevant?

Although IFLA has not been active in the development of standards for subject authority control, there has been much debate within IFLA in recent years about the need for further action to develop and maintain standards for authority control in general. Discussions about ten years ago to set up an international authority system seem to have produced relatively little result in terms, at least, of the regular international exchange of authority records between libraries. However, during the present year, IFLA researchers, with the help of the UBCIM Programme, have again begun investigating the type, structure and content of authority files used by national libraries (and their availability to others). These investigations have already allowed IFLA to draw some preliminary conclusions about the relevance of present standards to authority control efforts, and the need for new standards - (or these investigations may lead us to conclude that a laissez-faire approach is in fact the most practical). A group of IFLA specialists is also drawing up guidelines for the construction of subject authority records, which will complement the existing guidelines for name authority and reference records.[19]

The most important IFLA project in connection with authority control is the development of the UNIMARC format for authorities. (This is now being completed ready for publication later this year.) This format will of course allow the exchange of files of machine-readable authority records, which can be automatically linked to corresponding bibliographic (descriptive) records.

2.6.7. New distribution media.

New media are allowing public access to bibliographic records created and maintained by libraries and information services. The new medium for the commercial distribution and exchange of both bibliographic records and other information products is the CD-ROM ("compact disc - read-only memory"). The principal new medium, or rather the new instrument for enabling the public to gain access to online databases is the OPAC or online public-access catalogue, which can be consulted within a library or documentation centre, or made available over a public viewdata network. These developments have various important implications for current bibliographic standards.

2.6.7.1. CD-ROM.

In the case of CD-ROM, output of bibliographic records onto disc need not be in the format used internally by the distributing institution. In theory, the data can be structured in various ways, and reassembled by software in the user interface (perhaps an intelligent "front end") to be displayed in the desired format, (which may be a full national MARC format, UNIMARC, simplified MARC, a proprietary format, or whatever) or showing the ISBD structure. The implications

for library standards have not yet been fully worked out, as the medium is not yet sufficiently well established. It seems to me that the need for some sort of record input format with standardised content designators will not diminish (although whether punctuation will need to be input is another matter), and different types of institution will probably have to go on using different types of record format - but the formats used will certainly have to become more compatible with each other. The abandonment of the requirement for sequential access has also opened up new opportunities for national libraries to output their records onto disc not in the traditional full form but in discrete packets of authority, descriptive and subject data with appropriate linking mechanisms - i.e. as a relational database.

2.6.7.2. OPACs.

In the case of OPACs, the implications for current standards are in terms of: the varying screen display formats (with the user usually able to choose among several levels of bibliographic detail), the requirement to select a limited number of data fields for display in the restricted screen area (therefore raising the question of the criteria for selection of fields), the representation on-screen of subject information (by listing data fields, or by showing the hierarchical relationships of the data in a thesaurus context), the question of to what extent boolean logic is relevant to retrieval from an OPAC, the whole question of name and subject authority control, the question of quality control in the source database, the comprehensiveness of indexing in inverted files, and many others.

The problems are well illustrated by a British example: the Joint Academic Network (JANET). Here, the network allows the user access to participating libraries' files (whether the source database itself, or in the form of an OPAC), but the user still has to employ a new set of commands at each change of file, and cope with a wide variety of bibliographic practices.

3. Other international concerns.

3.1. Bridging the gap between different cultures.

It has often been observed that many of the current standards for bibliographic description and classification of documents have a strong Western, Christian and English-language bias. However, efforts have been made for many years to counteract this, while still maintaining international compatibility. Many out-dated concepts have been removed - e.g. those relating to older technology, or to colonialism. Many national libraries significantly adapt internationally accepted standards for the purposes of national bibliographic control and the production of national bibliographies:

examples are the National Library of Iran which has expanded the Dewey Decimal Classification (DDC) and Library of Congress Subject Headings (LCSH) to cover Persian language and culture, and the Bibliothèque Nationale of France which uses a translated and adapted version of LCSH originally developed in Canada. The national libraries of Australia and New Zealand also expand and adapt LCSH to suit their national contexts.

In the case of the ISBD texts, the recent harmonisation exercise has enabled IFLA to make provision in the revised editions for the inclusion in multi-script descriptions of data reading from right to left. The ISBD structure has also recently been incorporated into new Chinese national standards.

Library associations and other professional bodies in many countries collaborate in efforts to adapt standards of foreign origin to their national context. The UDC is maintained by the International Federation for Documentation (FID) with input from national committees. The Dewey Decimal Classification has recently been issued in a new edition (its 20th) which takes more account of Africa. The Anglo-American Cataloguing Rules (AACR) have been adapted by many countries of Europe and by other English-speaking countries. With the encouragement of IFLA and Unesco, the Arab League Educational, Cultural and Scientific Organisation (ALECSO) is engaged on a programme of translating all the ISBD texts into Arabic; and of course IFLA encourages the translation of the ISBDs into many other languages. Many translations and adaptations of the UNIMARC format are in progress or have been published in France, Portugal and Yugoslavia. Unesco's Common Communication Format is now also available in French, and has been translated and implemented as a national format by the People's Republic of China.

All these standards were developed painstakingly on the basis of international discussions which therefore prepared the way for implementation within individual countries' library and information networks, to an extent which varies in accordance with different national economic and information policies, where such exist. All these standards are flexible enough to be adapted, at least partially, to different cultures. (Those most difficult to adapt are of course the classification schemes; while the simplest are the formats for transmission of bibliographic and other records, which are frameworks for data in many languages and scripts.)

3.2. The economic gap.

It is a truism to state that there is a growing technological and economic gap between the industrialised North and the underdeveloped South. This gross generalisation ignores the fact that, in certain European countries, national libraries and library

networks are too small and under-funded, using out-of-date methods, to be capable of fulfilling their proper role. It also ignores the fact that national libraries and other information services in some developing countries are well resourced and do in fact demonstrate a high level of technical expertise in the application of automation and standards for bibliographic control.

Among many examples of this in the Asian context, one may cite the case of Malaysia, where there is a high level of experience and use of computers in education, government and business, and where there exist both library networks (MALMARC, a centralised cataloguing system linking the National Library and most of the university libraries) and government information networks, whose development is aided by a modern telecommunications (i.e. packet switching) network. Another example is Singapore, which is on the way to becoming a truly "wired-up" society.

Nevertheless, the gap between the richest and the poorest countries is wide and growing wider all the time; and this is, in many areas of the world, leading to a vicious circle whereby an under-developed economy does not have the resources needed to obtain and exploit information, and this lack of information in turn prevents efforts being made successfully to tackle the economic crisis.

Bibliographic control is one of several prerequisites for access to information for economic development. This type of information is currently provided by the major regional networks (such as PADIS, the Pan-African Documentation and Information System) and world-wide networks (such as AGRIS, and the services of CAB International); and scientific documentation centres have been created even in the poorest countries to take advantage of the existence of these networks. (Information of value for cultural and economic development can also be provided in the fields of the humanities and the social sciences by the databases of the large national and research libraries of the most highly developed countries; but online access to these is difficult and expensive: more effective use can be made of the bibliographies on different media, whether print, COM or CD-ROM.)

4.0 Policies for bibliographic control

4.1 Awareness of the need for bibliographic control.

It is obvious that, for bibliographic control to be effective, the rationale behind it must be fully understood both by practitioners and those in a position to form policy - there must be an increased level of awareness, throughout society and certainly among decision-makers, of the potential benefits and

implications of wider access to information. In those countries where national information policies have been or are being drawn up, it is appropriate for such policies to reaffirm the importance of the principle of bibliographic control and the need for technical standards and tools to attain it. Very pertinent comments were made in a paper to the 1987 IFLA Conference, in which the speaker described the obstacles to creating information awareness in African countries, and emphasised that:

> "...it is essential that information practitioners do not remain librarians, documentalists or information scientists alone but that there should emerge a class of information managers who act as politicians and defend the cause of information at political forums; as salesmen who sell competitive information products in a difficult market-place; as public relations officers who form and change information consumption habits; and as managers who raise the increased financial, technological and human resources required for information pursuits."[20]

Unesco, through its General Information Programme, has promoted the development of national information policies and plans in 22 of its member states; but it recognises that there is much work still to be done.

Bibliographic control must be *appropriate*, i.e. fully integrated into a flexible infrastructure in accordance with the resources available in individual countries. There must be mechanisms for receiving and circulating information, and staff trained to operate these mechanisms who have an understanding of bibliographic control standards as well as subject knowledge. Initially, this infrastructure must operate manual procedures, and the training of staff must be done initially at a basic level: there is no point in introducing automation to information services unless the groundwork has been well prepared. Just as it is pointless for developing countries to introduce electronic IR services unless document repositories and document distribution services exist, so it is pointless for them to invest heavily in the automation of their national bibliographic service unless (a) there is sufficient national demand, and awareness of the value of literacy and public library services, (b) a satisfactory manually-produced National Bibliography already exists and (c) that manual version is already supported by a proper legal deposit law and compiled by the application of internationally agreed bibliographic standards (- in support, once again, of the objectives of UBC).

In this context, it is interesting to note that Wijasurija, in discussing the relevance of IFLA to the developing world, has stated:

> ""Applying IFLA systems, guidelines and standards may be useful, but it seems that in many Third World

> countries actions of a far more basic nature may be needed. Again, "encouraging translations of publications in librarianship" may be far less important than providing for translations in other fields. Book development and availability, literacy and the inculcation of the reading habit may be far more important considerations in the Third World."[21]

This is undoubtedly true in the case of some countries. Certainly, for example, a seminar on government publications held in Canberra in 1988 identified many fundamental problems in countries of the South Pacific area, relating to professional training, publishing, and the availability and bibliographic control of publications.[22] Action is needed to tackle such basic problems. However, there are enough examples of advanced countries in the Third World to make it possible and necessary to make progress at a higher level in applying standards, guidelines and software developed by all relevant organisations, including IFLA.

Efforts to spread the benefits of automation on an appropriate scale must be encouraged. Many regional and international non-governmental organisations are developing data formats and software for appropriate automation: two obvious examples are Unesco, whose General Information Programme develops and maintains the Common Communication Format (CCF) and the CDS/ISIS software, and the International Development Research Centre (IDRC) which distributes the MINISIS software package. These efforts are vital and laudable: each country must build up the framework for an information infrastructure suited to its national context; but this framework must be clothed. Information systems in developing countries must be able to acquire and use (in machine-readable form) data from all foreign sources which they consider appropriate to them. This conforms to the principle of Universal Availability of Publications (UAP), which was first put forward by IFLA, and later adopted as a major policy objective by Unesco. It is worth repeating here that standards for bibliographic control are not important in themselves but as steps on the way to making source documents available.

Once the groundwork has been done, less developed countries may finally be able fully to link into international information systems, and circuits for the automated distribution of bibliographic records.

4.2 Areas to be covered by information policies.

Library education needs constantly to be rexamined. Is the value and correct application of standards taught in library schools, or on "in-service" refresher courses? If practising librarians do not have experience of new technology to develop their professional awareness, how can they be given access to such new methods?

Policies need to take into account the inter-relationship of bibliographic control with mechanisms for UAP, i.e. document supply systems, on the one hand, and requirements for the preservation and conservation of library materials (particularly in tropical conditions) on the other hand.

Policies must take into account the problems of automation: the high cost of equipment (even at the level of small personal computers) and telecommunications links. T.E. Mlaki has pointed out the value of PCs with simple software packages in automating cumbersome manual procedures, and in creating useful local databases, in an African context; but he also noted some socio-cultural obstacles to greater popular understanding of new information technology in some developing countries.[23]

The IFLA Regional Section for Asia and Oceania has been considering a number of proposals for: the improvement of professional training, an analytical study of the information infrastructure of countries within developing regions, a union catalogue of periodicals in Asia and Oceania, control of national imprints and the implementation of UBC and UAP programmes in Asia and Oceania - among other policies.[24] The Canberra seminar, previously mentioned, made very specific recommendations for the development of bibliographic tools, i.e. the production of the *South Pacific Bibliography* and the *South Pacific Periodical Index*, and recommended special projects to establish: a Pacific names authority file, a list of Pacific subject headings to supplement LCSH, and additions to DDC to make up for deficiencies in Pacific coverage.

Furthermore, the International Conference on Bibliographic Databases and Networks, held in Delhi earlier this year, made strong recommendations for improvements in developing countries' access (both in intellectual and in telecommunications terms) to scientific information services, and for improvements in national bibliographic control. It stressed the importance of standards, and observed that there are numerous bureaucratic obstacles to the distribution of information products (copyright problems, high customs duties on equipment, etc.).[25]

5.0 Suggestions for action by professionals

5.1 Specific projects and studies.

It seems that, due to the technical and economic factors already mentioned, there may be a need for a number of specific studies into the relationship between theory and practice in the application of existing standards and recommendations in bibliographic control, to find out if these tools are still the most appropriate. How should IFLA and other associations of

librarians and information specialists react? In the medium and long term, I suggest that the following areas of research should be considered:

- the true cost (in terms of cataloguers' and programmers' time) of the application of current descriptive standards in record creation for national bibliographies, and the possible production of subsets of specific ISBDs for particular purposes, (in addition to the revision of the basic ISBD(G) which is already underway). In particular, applications handbooks could be produced for those countries where bibliographic control is currently weak. This could be done in some cases in collaboration with bodies outside IFLA.
- problems of legislation on copyright and intellectual property, and its relation to the production of national bibliographies in both developed and developing countries.
- the relationship between national libraries, information systems and commercial suppliers of information, to consider rights and responsibilities within the context of national information planning. This could cover numerous issues, e.g. access to agricultural information, document supply systems, the functioning of CIP, descriptive standards, or planning a national acquisitions policy.
- the impact of data-protection legislation on the transborder flow of bibliographic data.
- a study of the impact of OPACs on IFLA-sponsored descriptive standards, and on subject-indexing practices.
- the development of practical standards (descriptive, MARC, subject access) for retrospective cataloguing and retrospective conversion, and the definition of national library policy for making such material available by sponsorship or in joint ventures. Greater attention should be paid to mechanisms for making information from European libraries available to former colonial nations, as is done, for example with material held in the India Office Library in London (part of the British Library).
- the strengthening of regional library groupings, and working jointly with those which already exist, particularly in Africa, Asia, Latin America and the Pacific, to discuss common problems. A useful model for such bodies might be the EFLC (European Foundation for Library Cooperation).
- continuing the present efforts of the UBCIM Programme to coordinate and promote the translation of existing IFLA standards from English into other languages, perhaps by joint efforts with commercial publishers or international bodies if the financial resources or expertise needed are not available in particular areas.
- the commercial and technical viability of new media for the distribution of bibliographic records, bearing in mind the requirements of the industrialised countries on the one hand and the developing world on the other.

- new projects following from the current IFLA investigation into problems of authority control, not only in terms of refining existing standards, but in systems and tools for authority control where these are lacking.

5.2 The role of professional bodies.

In certain cases, as in the past, project work and subsequent publication of new or revised standards could well be undertaken in cooperation with other bodies. These bodies could be professional, such as national library associations (or regional like LIBER - the Ligue des Bibliothèques Européennes de Recherche); international, such as FID, ACURIL (Association of Caribbean University, Research and Institutional Libraries), ASCOBIC (African Standing Conference on Bibliographic Control), or the Conference of Directors of National Libraries (CDNL); non-profit-making bodies such as OCLC (Online Computer Library Center) or aid agencies such as IDRC; intergovernmental bodies such as ASEAN or the South Pacific Commission; or various others such as the Commonwealth Library Association (COMLA) or the Congress of South-East Asian Librarians (CONSAL). It is essential that close liaison should be maintained with Unesco, within the framework of its 1990-95 Medium-Term Plan, which provides for cooperation with non-governmental organisations.

5.3 The involvement of IFLA.

IFLA, through its UBCIM Programme, will continue to maintain and promote UNIMARC as an international bibliographic exchange format. Records in UNIMARC format can now be generated using MINISIS[26] and CDS/ISIS; and UNIMARC/CCF conversion tables will shortly be available. IFLA will continue to encourage the adaptation of UNIMARC to library systems of various types and sizes. It will also promote the application of the new UNIMARC format for authority records.

IFLA is in an ideal position to help in the maintenance of bibliographic standards because of its experience in the strengthening of links between national and regional library associations. IFLA's involvement can be seen in many professional areas, and in its development of Regional Sections, Regional Offices, and particularly its Core Programme for the Advancement of Librarianship in the Third World. Local professionals and managers of library networks in SE Asia (as in all regions) can help in developing technical standards by publicising their work and exchanging experiences with other colleagues.

Participants in this Symposium should ask themselves how IFLA and its Regional Office in Bangkok can provide the support and advice which they need. Should it, for example, provide technical advice, or should its role be

to coordinate meetings and communicate by publishing the results of work of interest both to the local and international community? Above all, I urge participants to provide strong input to IFLA's professional initiatives, and make their voice heard within this international association.

6.0 Conclusions

Appropriate library standards for bibliographic control are of great value to all countries, provided that they are technically well-designed, constantly maintained, developed within the framework of an information policy and applied in a cost-effective manner by the public or private sector agencies which create and market bibliographic records.

The application of such standards can indirectly assist national economic development. It can also help the newly industrialised and still developing nations to gain access, through their own libraries, to elements of their own cultural heritage contained in the great libraries of Europe and North America.

Appropriate national and regional information policies still need to be designed in certain countries and areas, principally of the Third World. In some areas, automation needs to be introduced, though with circumspection.

IFLA, being an international non-governmental professional association, is in a position to mediate between professional librarians and information specialists from different cultures.

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References

1. Report of the International Meeting of Cataloguing Experts, Copenhagen, 1969. In: *Libri* 20 (1) 1970. (Quoted by D. Anderson in: *Universal Bibliographic Control*, 1974.)

2. Anderson, D. *Universal Bibliographic Control : a long-term policy, a plan for action.* - Pullach/Munchen: Verlag Dokumentation, 1974. (p.11)

3. *Manual on bibliographic control* / IFLA International Office for UBC. - Paris: Unesco PGI and UNISIST, 1983. - (PGI-83/WS/8)

4. Chaplin, A.H. In: Foreword to the ISBD(M) (preliminary edition).

5. *Guidelines for the national bibliography and the national bibliographic agency* / IFLA International Office for UBC. - Paris: Unesco, 1979. - (PGI/79/WS/18)

6. See, in particular:
- Beaudiquez, M. *Bibliographic services throughout the world.* - Paris: Unesco (PGI). Editions as follows:
  - 1970-74, published 1977;
  - 1975-79, published 1984;
  - 1980, published 1982; supplement to PGI UNISIST Newsletter 10 (1);
  - 1981-82, published 1985 (PGI85/WS/5);
  - 1983-84, published 1987 (PGI87/WS/4).
- Bell, Barbara L. *An annotated guide to current national bibliographies.* - Alexandria, VA: Chadwyck-Healey, 1986.
- *Proceedings of the national bibliographies seminar, Brighton, 18 August 1987* / ed. by W.D. Roberts. - London: IFLA UBCIM Programme, 1987.

7. Wells, A.J. *The International MARC Network: a study for an international bibliographic data network.* - London: IFLA International Office for UBC, 1977. - (Occasional Papers; 3)

8. *International guide to MARC databases and services* / ed. by D. Wolf and F. Conrad. - Frankfurt am Main: Deutsche Bibliothek, 1984 (1st ed.), 1986 (2nd ed.).

9. *International transfers of national MARC records: guidelines for agreements relating to the transfers of national MARC records between national MARC agencies.* - London: IFLA UBCIM Programme, 1987.

10. Clement, H.E.A. - "The International MARC Network and National Libraries." In: *Alexandria*, 1 (1) 1989, p25.

11. *UNIMARC Manual* / ed. by Brian P. Holt with the assistance of Sally H. McCallum and A.B. Long. - London: IFLA UBCIM Programme, 1987.

12. Verona, Eva. *Corporate headings: their use in library catalogues and national bibliographies: a comparative and critical study.* - London: IFLA Committee on Cataloguing, 1975.

13. *Form and structure of corporate headings* / recommendations of the Working Group on Corporate Headings. - London: IFLA International Office for UBC, 1980.

14. *Names of persons: national usages for entry in catalogues.* - 3rd ed. - London: IFLA International Office for UBC, 1977. And its *Supplement...*, 1980.

15. *Uniform headings for higher legislative and ministerial bodies in European countries* / USSR Cataloguing Committee. - 2nd ed. - London: IFLA International Office for UBC, 1979.

16. *African legislative and ministerial bodies: list of uniform headings for higher legislative and ministerial bodies in African countries* / ASCOBIC. - London: IFLA International Office for UBC, 1980.

17. Bryant, P. "Bibliographic access to serials: a study for the British Library." In: *Serials (the journal of the United Kingdom Serials Group)* 1 (3) 1988, pp41-46. *AND:* ""What is that hyphen doing, anyway?" - Cataloguing

and classification of serials and the new technologies." In: *International Cataloguing & Bibliographic Control* 18 (2) 1989, pp27-29.

18. Gorman, G.E. and J.J. Mills. "Evaluating Third World national bibliographies as selection resources." In: *Library acquisitions: practice and theory*, 12 (1988), pp29-42

19. *Guidelines for authority and reference entries.* - London: IFLA International Programme for UBC, 1984.

20. Abate, Dejen. "Libraries and information services in a changing world: the challenges African information services face at the end of the 1980s". (Paper presented to the IFLA Conference, Brighton, 1987; no. 119-AFRICA-1-E.)

21. Wijasurija, D.E.K. "IFLA's Core Programme on the Advancement of Librarianship in the Third World: orientation, mechanisms and priorities." In: *IFLA Journal*, 14 (4) 1988, p.329

22. Seminar on Government Publications and Collection Development in the South Pacific Area, Canberra, 5-7 September 1988. See its *Resolutions.*

23. Mlaki, T.E. "Introducing micro-computers for national bibliographic control activities in developing countries." In: *The application of micro-computers in information, documentation and libraries* / ed. by K.-D. Lehmann and H. Strohl-Goebel. - Elsevier, 1987.

24. Report of the activities of the IFLA Regional Section for Asia and Oceania, 1987-88. (Presented to the IFLA Conference, Sydney, 1988; no. 96-ASIA-3-E.)

25. *International conference, New Delhi, India, 22-25 February 1989: Bibliographic databases and networks: papers* / ed. by S.S. Murthy, Anuradha Ravi and A. Lakshmana Moorthy. - New Delhi: Tata McGraw-Hill, 1989.

26. Woods, E. The MINISIS/UNIMARC Project: final report. - London: IFLA UBCIM Programme, 1988.

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